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AMSAT NEWS SERVICE
ANS-313

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

***** HAPPY ANNIVERSARY AO-7, Launched 15 November 1974 *****

In this edition:

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SB SAT @ AMSAT $ANS-313.01
ANS-313 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 313.01
>From AMSAT HQ KENSINGTON, MD.
DATE November 9, 2014
To All RADIO AMATEURS
BID: $ANS-313.01

AO-7, 40 years in Space November 15

40 years ago: AMSAT-OSCAR 7 was launched at 1711 UTC, November 15, 1974 from the Western Test Range at Vandenberg AFB in California

AO-7 became the second AMSAT-NA constructed and Phase 2 amateur radio satellite launched into Low Earth Orbit. It remained operational until a short circuit in a battery in 1981. On 21 June 2002 the satellite was heard again on its 2 meter beacon (145.9775 MHz CW) after 21 years of silence, and 27 years in space. AO-7 remains semi-operational with reliable power only from its solar panels. The restoration of service was due to the short circuited battery becoming an open circuit allowing the solar cells to power

the spacecraft. When the satellite eclipses it powers down. It is operational while the solar panels are illuminated by sunlight.

The following links offer history and information on AO-7.

Read the original AO-7 launch announcement in the 1974 AMSAT Newsletter: AMSAT-Newsletter-1974-AO-7Launch.

AMSAT.org information on AO-7
http://ww2.amsat.org/?page_id=1031

A series of pictures of the historic AO-7 OSCAR mission can be found on pages 63-75 in the following PDF
http://tinyurl.com/ANS313-AO7-Pictures-pp63-75

Michael Fletcher OH2AUE has published Schematics of linear AO-7's transponders. He apoligizes about the Finish
http://www.kolumbus.fi/michael.fletcher/ao_07a.gif
http://www.kolumbus.fi/michael.fletcher/ao_07b.gif

Construct an OSCARLOCATOR in Celebration of AO-7!
William Leijenaar, PE1RAH has revived the OSCARLATOR and provides a downloadable and printable version!
http://www.qsl.net/pe1rah/oscarlator.htm

[ANS thanks AMSAT, Michael OH2AUE and William PE1RAH for the above information]

Special-Event Station for 40th Anniversary of OSCAR 7 Launch

Patrick Stoddard WD9EWK/VA7EWK has secured the special call sign W7O (WHISKEY SEVEN OSCAR) for use in commemorating the 40th anniversary of the launch of OSCAR 7 on 15 November 1974. He plans on having this call on the air between 15 and 24 November 2014, working satellites and possibly other bands. He will work satellite passes from Arizona, including AO-7 passes, and hopes to recruit a small group of operators who can work other passes that cover eastern North America along with other places that he can't work from his home QTH (i.e. Europe, north Africa, South America). He may also recruit some operators to work HF with this call.

Patrick will handle the QSL requests for W7O during this period.

"I am thinking of incorporating the original QSL card design AMSAT used to confirm AO-7 reception reports from the 1970s in the W7O card. (Does anyone have a good scan of both sides of that 1970s QSL card? Not the 30th anniversary AO-7 card - I have those, and there is a copyright on that design I do not wish to violate.) The QSL cards will be printed after the W7O activity wraps up. I will also upload W7O QSOs to ARRL's Logbook of the World system."

Please contact Patrick directly (patrick at wd9ewk dot net) if you have any questions related to this operation, or if you are willing to operate on satellites and/or HF as W7O during this 10-day period.

Late Breaking

Patrick followed up the original announcement with this communication of driectives via the AMSAT-BB.

"Thanks to all who have posted in public forums and sent me private e-mails about the upcoming W7O operation. I am now ready to take sign-ups for those who would like to operate as W7O during the 15-24 November (UTC time) period.

"An important point regarding who can operate as W7O... W7O can only be operated from US territory, where amateur radio is regulated by the FCC. It cannot be used from outside US territory, as these 1x1 special calls - just like US club calls - are not covered by any of the arrangements like CEPT, IARP, or other agreements between the USA and other countries. I have been asked by some non-USA hams who were interested in operating as xxx/W7O or W7O/xxx in their countries. I'm sorry - this is not possible.

"For the HF/6m operating, I will take signups for one-hour increments on the HF bands (excluding 60m) plus 6m, for CW, phone, and digital modes. For the 30m band, only CW and digital modes. I am wanting to avoid two stations operating on the same band/mode combination as W7O at the same time. If you are willing to operate for 2, 4 or more hours at one time - please feel free to sign up for more consecutive slots. Also, please let me know about your HF station - rig(s), antenna(s), etc. If you do sign up, please follow through with being on the air at the specified times. Stations will be looking for W7O on the different bands.

"For the satellites, I am looking for operators in different parts of the USA. In particular, operators in the eastern USA capable of working Europe, north Africa, and South America along with North America will be welcomed. Other operators who are not able to work other continents are also welcome, but there has been interest from hams outside of North America to work W7O on the satellites - especially AO-7. I plan on working W7O on the satellites during weeknights and as much as possible on the two weekends during this 10-day period, but would be happy to share the work with others who may want to work as W7O during those times.

"Operators would need to operate within the limits of their amateur licenses. The W7O call does not grant additional privileges to the operator. Operators are required to give their personal call signs once per hour when operating under a 1x1 special call. For example, saying "W7O, operated by (operator's call)" would satisfy this requirement. On the satellites with passes that are typically 10 to 20 minutes in length, giving the "W7O, operated by (operator's call)" announcement around the midpoint of each pass worked would be a good thing.

"Once I get some operating commitments from operators, I will publish the schedule through a link on my WD9EWK QRZ.com entry and my web page. This way, others will know where and when to look for W7O during this 10-day period.

"After the 24th, W7O operators would need to send me a log of stations worked, with the usual bits of data - date/UTC time, call, band (or bands, for satellite QSOs), mode, and (for satellites) satellite name. I can handle ADIF log files, Excel spreadsheets, text files, and logs pasted into the body of e-mails. If you are not able to send me a file in any of these formats, please let me know, so we can work out a way to get the logs. Logs will be uploaded to Logbook of the World, and I (WD9EWK) will handle the QSL cards for W7O.

"Please e-mail me directly (patrick at wd9ewk dot net) if you're interested in operating as W7O, or if you have any other questions about this operation."

[ANS thanks Patrick WD9EWK/VA7EWK for the above information]

Changes to AMSAT 20M Net Announced

Keith Pugh, W5IU and Larry Brown, W7LB, Net Control stations for the AMSAT 20M International net have announced changes to the net operation.

Keith wrote, "The AMSAT 20 Meter Net will be changing format effective 9 November 2014. It will start with check-ins at 1900 UTC on 14.282 MHz and proceed with Satellite Q&A and other topics."

Continuing, he adds, "The weekly AMSAT Bulletin Titles will be read and an offer will be made to read or discuss specific bulletins by request. We encourage check-ins from AMSAT Officers, BOD Members, Operators that are very active on the Satellites, and of course Operators that are new to the Satellites and/or Ham Radio. The activity will generally be over by 2000 UTC. We realize that not everyone has 20 Meter capability but we need more activity to continue running this net. Dust off your HF Gear, put up a 20 Meter Dipole, and join us or let the net die a natural death."

[ANS thanks Keith Pugh, W5IU and Larry Brown, W7LB for the above information]

EIAST launches UAE's first CubeSat Mission, Nayif-1

EIAST, in partnership with American University of Sharjah (AUS), launched the UAE's first CubeSat Mission, Nayif 1, on November 4. CubeSat is a Nanosatellite that offers hands-on experience to engineering students in the design, integration, testing, and operation of a communications satellite.

The CubeSat is scheduled to be launched on board a Falcon 9 rocket by the end of 2015 where a ground station will be built at AUS and operated by Emirati engineering students, responsible for mission planning and operations.

The CubeSat development program, the first of its kind in the UAE, aims at investing and developing capabilities of Emirati engineering students in space technologies. A group of Emiratis consisting of seven students from various engineering disciplines at AUS, including computer engineering, electrical engineering and mechanical engineering, have been assigned to the project. Students will go through an intense systems design and testing training and will partake in the program as their Senior Engineering Design project and participate in the design, assembly, integration and testing of the CubeSat. Nayif-1 will carry out a 1U Communication Mission with development taking place in AUS, EIAST's facilities and Delft in the Netherlands.

The project will be carried out in partnership with the implementation partner "Innovative Solutions in Space", one of the leading companies worldwide in the development of space components and NanoSatellite Systems. EIAST will take on the role of the

integrator in the process and ensure that all necessary processes are in place to preserve and build upon the experience gained. Its objective will be to put in place all the necessary infrastructure at the University for a CubeSat development program between the implementation partner and AUS's Emirati students.

Nayif-1 will integrate engineering student expertise and capabilities with the expertise, capabilities and resources from UAE industry, government and academia, which is a typical integration cycle in all KBEs, to build and launch CubeSat Mission.

Yousuf Hamad Al Shaibani, Director General of EIAST commented on the launch and stated, "this program plays a significant role in developing the Science and Technology sector in the UAE through investing in local talents and capabilities. We expect to have significant involvement of Emirati engineering students with the outcome being a UAE built and owned CubeSat. The program will also aid in establishing the necessary infrastructure at a UAE university to enable an ongoing university satellite program, preparing undergraduate, and later on, post graduate students to enter the UAE's space technology industry with firm practical knowledge in all disciplines of Satellite Systems Engineering".

A CubeSat is of standardised and simplified design with an average dimension of 10 cubic centimetres (referred to as "one unit" or "1U"). Its weight is less than or equal to 1 kg; allowing it to be accessible and easily managed by students. CubeSats can also be scaled along one axis by 1U increment so that "2U" refers to CubeSat dimension of 20*10*10 cm and "3U" to 30*10*10 cm dimension.

CubeSat usually utilises commercial, off-the-shelf components for development and is mainly operated by educational institutes for scientific research purposes. With simple infrastructure, design procedure, available components, and open launch opportunities, CubeSats have become popular in the space industry and an area of interest to educational institutes and governments. Above all, they are cost-effective and an independent means of getting payloads into orbit for learning, testing and verifying space systems.

[ANS thanks SatellitePro Mid East for the above information]

Japanese Microsatellites Launched

On Thursday, November 6 at 07:35:49 UT a Dnepr rocket carrying the primary payload Asnaro-1 and four microsatellites was launched from Dombarovsky near Yasny. Kosmotras report all spacecraft have been inserted into their target orbits.

The four Japanese microsatellites are:
- ChubuSat-1 (Kinshachi-1) 437.485 MHz CW/AX.25 (Digipeater uplink 145.980 MHz)
- TSUBAME 437.250 MHz CW and 437.505 AX.25
- Hodoyoshi-1 467.674 MHz
- QSAT-EOS (Tsukushi) an AX.25 GMSK payload has been reported but the frequency is unknown.

Signals have been received from both ChubuSat-1 and TSUBAME.

The 50kg class ChubuSat-1 aims to
* Relay messages in amateur service (AX.25 packet radio Digipeater)

* Take pictures of particular site on Earth commanded from the Earth station with an optical camera and an Infra-red camera
* Try to take pictures of space debris commanded from the Earth station with above two cameras

It will have 3 axis stabilisation.

The 30kg class TSUBAME aims to
* Demonstrate satellite bus technology for 30kg-class microsatellite and verification of COTS components such as micro-processors, memory and Li-ion batteries in the space environment
* Verify of Control Moment Gyros developed by the Laboratory for Space Systems
* Demonstrate of high-speed attitude manoeuvres technology using Control Moment Gyros. Some sensor data acquisition experiments will be conducted at the same time in order to demonstrate applications of CMGs
* Demonstrate of SRLL communication protocol developed by Tokyo Institute of Technology and high-speed GMSK data downlink
* Collect data through internet with the aid of radio amateurs all over the world

TSUBAME TLE http://www.dk3wn.info/p/?p=51785

Kosmotras announcement
http://www.kosmotras.ru/en/news/155/

Satellite info and launch video
http://russianspaceweb.com/dnepr_asnaro.html

ChubuSat-1 Slides
http://www.frontier.phys.nagoya-u.ac.jp/chubusat/ChubuSat-20130311.pdf

UHF Satellite frequencies
http://www.satellitenwelt.de/freqlisten/SatFreq-UHF.txt

IARU Satellite Frequency Coordination Panel Status Pages
http://www.amsat.org.uk/iaru

[ANS thanks AMSAT-UK for the above information]

Challenge Coin Premium for AMSAT Fox Donations Continues

AMSAT has commissioned a unique challenge coin for donors who have contributed at the $100 level or higher. This challenge coin is shaped as an isometric view of a Fox-1 CubeSat, complete with details such as the stowed UHF antenna, solar cells, and camera lens viewport. Struck in 3mm thick brass, plated with antique silver, and finished in bright enamel, the coin is scaled to be approximately 1:4 scale, or 1 inch along each of the six sides. The reverse has the AMSAT Fox logo.

Donations may be made via the AMSAT website, via the FundRazr crowdsourcing app at http://fnd.us/c/6pz92/sh/561Zd, or via the AMSAT office at (888) 322-6728.

The Fox program is designed to provide a platform for university experiments in space, as well as provide FM repeater capability for radio amateurs worldwide. Fox-1A and 1C are set to launch in 2015, and Fox-1B (also known as RadFXSat) is awaiting NASA ELANA launch assignment. Further information on the Fox project can be found at

http://www.amsat.org/?page_id=1113.

[ANS thanks AMSAT Office for the above information]

K6LCS Sells Personal Items To Assist FOX Satellite Fundraising

Clint Bradford K6LCS is offering something a little different for those interested in donating to AMSAT-NA's FOX satellite projects.

"I am digging up some unique space-related items and am offering them for sale, with 100 per cent of the sale price forwarded directly to AMSAT-NA's Fox fund," Clint reports.

The first items available were six commemorative USPS first day covers celebrating the Apollo/Soyuz projects and the Apollo 11 Moon landing, as well as a 24-stamp plate block. Look for more items to be posted as the older ones sell.
Details at ...
http://work-sat.com/FUNDRAISING.html

[ANS thanks Clint K6LCS for the above information]

CubeSat Simulator Intern Opportunity at Goddard Space Flight Center

The NASA Goddard Space Flight Center is offering an internship position for the Spring, 2015 semester. Applications are being taken on the NASA One Stop Shopping Initiative (OSSI) recruiting web site:
https://intern.nasa.gov/

This position is in the Simulated Satellite (SimSat) program.

Job Title: CubeSat Simulator Upgrade Plus (15-1) (Internship)

The objective of this Opportunity is to allow a university level student to rework, repair and improve a prototype "1-Unit" CubeSat simulator/model on loan from AMSAT and then to share his or her experiences as a result. The model used in this Opportunity is similar to that described in The AMSAT Journal article "Education With A Satellite Simulator: ETP CubeSat Simulator," by Mr. Mark Spencer, ARRL Education and Technology Program Coordinator, Part 1 in the September/October 2009 issue and Part 2 in the November/December 2009 issue.

Back copies are available at:
http://www.arrl.org/files/file/ETP/CubeSat/CubeSat-Pt1-SepOct09.pdf
http://www.arrl.org/files/file/ETP/CubeSat/CubeSat-Pt2-NovDec09.pdf

A course of study in engineering is required. Electrical/Electronics Engineering or Electrical and Computer Engineering for university students in their junior class or higher. Experience in hardware is also required.

The immediate skills required of the intern are to be a well-rounded individual, and to have an excellent knowledge of and experience with Windows operating systems, Microsoft Office (especially in using spreadsheets), electrical and electronic circuits (theory and

practice), microcontrollers, interfacing, and basic laboratory test equipment and procedures.

Familiarity with the CubeSat community is important.

A proficiency in either C++ or a similar language for microcontrollers and the desire to learn a new one is necessary. A basic understanding of data acquisition, signal processing, or control is required.

Hands-on experience in building something, repairing or upgrading PCs or other electronic gear, or just getting stuff to work is required. Mechanical and electrical construction skills will be used.

Experience in RF or wireless technology (anywhere between 3 and 2400 MHz) is very important. Holding or obtaining an Amateur Radio license from the FCC and practical radio experience is a distinct advantage.

A good attitude, an exceptional willingness to learn and to contribute as a team player are essential qualities. Likewise, excellent communicator skills (verbal, writing and definitely e-mail), reliability, punctuality, having a self-starter work ethic and the ability & desire to work independently for long periods are required.

You may ask questions regarding the tasks and skill requirements with the mentor in advance (Mr. Pat Kilroy, Code 568, Patrick.L.Kilroy(a)nasa.gov) and telephone interviews will be available. The deadline to apply for the Spring 2015 semester is November 9. Applications must be made via the OSSI web.

[ANS thanks Pat Kilroy, N8PK for the above information]

Design The Next AMSAT Satellite!

At the 2014 AMSAT Space Symposium AMSAT Vice President - Engineering Jerry Buxton announced the plan for the next generation of AMSAT satellites. "The door is open for everyone, to submit their ideas. AMSAT Engineering has a long term strategy and this is the first step."

The Engineering long term strategy includes the following goals

Advancement of amateur radio satellite technical and communications skills Enhance international goodwill Grow and sustain a skilled pool of amateur radio satellite engineersEstablish and maintain partnerships with educational institutions Develop a means to use hardware common to all opportunities

With respect to the last goal Jerry said "Within the bounds of the type of satellite it takes to achieve any of the various orbit opportunities, let's consider in those plans the possibility of developing a platform that can suit any and all orbits. Perhaps a modular CubeSat, using a common bus as we did in Fox-1, which gives great flexibility in building and flying different sizes and configurations of CubeSats with simple common-design hardware changes."

Submissions should be thorough and contain the following information. The purpose of the proposal is not just in suggesting an

idea; being an all-volunteer team AMSAT needs your help in carrying out the idea.

Design Implementation - CubeSat platform Estimated timeline Cost - volunteer resources, commercial (COTS) units Launch - how does it get to orbit Strategy - how it fits into AMSAT's Engineering long term strategy

As mentioned above the idea should be based on the CubeSat platform. This is the standard through which we will look for launches in the foreseeable future.

In considering your proposal, Jerry encourages you to contact him for more details on the criteria. A guidebook to the criteria is now available for download here. In particular, if you plan to include a university as a partner to provide experiments or other support and you are not representing that university, please contact Jerry for assistance in working with our existing partners or establishing a new partnership.

"Being amateur radio operators, it is easy for us to fall into a particular trap because of our history of communicating with other amateurs throughout the world" says Jerry. "Specifically, most people who are not already involved in the world of satellite technology are unaware of or simply overlook the provisions of the current ITAR and soon to be EAR export rules particularly with regard to deemed exports which requires governmental permission to discuss satellite projects with foreign nationals."

While all amateurs are invited to submit ideas, U.S. amateurs must take particular care of they choose to become involved in a collaboration which includes individuals from other countries. It is permissible to receive ideas and proposals from outside the U.S., but it is not permitted for U.S. Persons to export or share design ideas with other countries unless they have taken the proper steps to insure compliance with ITAR and deemed export rules.

Additionally, those wishing to work on proposals should use care in presenting themselves in their contacts. While the goal is for AMSAT to build and launch the satellite, it is not an AMSAT project until it is accepted by the AMSAT Board of Directors. It is acceptable to represent yourself as members of a project team that plans to submit a proposal to AMSAT for a future satellite project, as the AMSAT name is well known.

"It is not our intention that ideas be submitted to AMSAT-NA which would be more appropriately handled by an AMSAT organization in a country where AMSAT is established. AMSAT-NA is seeking ideas from amateurs in North America and will certainly consider ideas from amateurs in countries which do not have an established AMSAT organization or relationships with an existing AMSAT organization."

The deadline for submissions is May 30, 2015. After the submission date the ideas will be screened for completeness and then reviewed by a board consisting of the AMSAT Engineering Team, AMSAT Senior Officer and Board of Directors representatives, and aerospace industry members. The review board may modify or consolidate ideas and will consider which meet the criteria to become a project based on feasibility, cost, and the ability to bring value to the amateur satellite community. The review process is expected to be completed in September 2015.

For those ideas selected to become a project which satisfy the requirements for an ELaNa launch, the idea authors will be asked to

work with the AMSAT Engineering Team on an ELaNa proposal.

The Engineering Team will then work on the details of execution for the selected project(s) and present a proposal to the AMSAT Board of Directors in October 2015 for final approval to begin work. Once approved, any ELaNa proposals will be submitted in November 2015 and the project(s) will move forward.

Now is the time for YOU to begin working on the next AMSAT satellite!

[ANS thanks Jerry, N0JY, for the above information

ARISS U.S. Partners Now Accepting Proposals for Contacts in 2015

The ARISS U.S. partners have opened a window seeking formal and informal education institutions and organizations in the U.S., individually or working together, to host an Amateur Radio contact with a crew member on board the ISS during 2015. The proposal window is October 17 - December 15, 2014.

Read the announcement at:
http://tinyurl.com/ANS313-ARISS

To maximize these radio contact opportunities, ARISS is looking for organizations that will draw large numbers of participants and integrate the contact into a well-developed education plan.

More details on expectations, audience, proposal guidelines and proposal form, and dates and times of Information Sessions are available at www.arrl.org/hosting-an-ariss-contact. Please direct any questions about hosting a contact in the U.S.to ariss(a)arrl.org.

[ANS thanks ARISS for the above information]

ARISS News

+ A Successful contact was made between SK Putrajaya Presint 9, Putrajaya, Malaysia and Astronaut Gregory Wiseman KF5LKT using callsign OR4ISS. The contact began 2014-11-01 11:14 UTC and lasted about nine and a half minutes. Contact was direct via 9M2RPN.
ARISS Mentor was 7M3TJZ.

+ A Successful contact was made between Baltic State Technical University "Voenmekh" (BGTU), Saint-Petersburg, Russia and Cosmonaut FNAME Maxim Suraev using callsign RS0ISS. The contact began 2014-11-03 09:15 UTC and lasted about nine and a half minutes. Contact was direct via RA1AJN.
ARISS Mentor was RV3DR.

+ A Successful contact was made between Gulf English School, Kuwait City, Kuwait and Astronaut Gregory Wiseman KF5LKT using callsign NA1SS. The contact began 2014-11-04 12:56 UTC and lasted about nine and a half minutes. Contact was telebridged via K6DUE.
ARISS Mentor was IN3GHZ.

+ A Successful contact was made between Language High School "Geo

Milev", Dobrich, Bulgaria and Astronaut Gregory Wiseman KF5LKT using callsign NA1SS. The contact began 2014-11-04 12:56 UTC and lasted about nine and a half minutes. Contact was telebridged via K6DUE.
ARISS Mentor was IN3GHZ.

+ A Successful contact was made between DLR School Lab TU Dresden, Dresden, Germany and Astronaut Alexander Gerst KF5ONO using callsign DPØISS. The contact began 2014-11-08 09:54 UTC and lasted about nine and a half minutes. Contact was direct via DLØIKT.
ARISS Mentor was IN3GHZ.

+ A Successful contact was made between Woehlerschule, Frankfurt, Germany and Astronaut Alexander Gerst KF5ONO using callsign DPØISS. The contact began 2014-11-08 09:54 UTC and lasted about nine and a half minutes. Contact was direct via DLØFFM.
ARISS Mentor was IN3GHZ.

+ A Successful contact was made between Airdrie Space Science Club, Airdrie, Alberta, Canada and Astronaut Gregory Wiseman KF5LKT using callsign NA1SS. The contact began 2014-11-08 16:01 UTC and lasted about nine and a half minutes. Contact was direct via VE6JBJ.
ARISS Mentor was VE6JBJ.

Upcoming ARISS Contact Schedule

>From 2014-11-10 to 2014-12-07, there will be no US Operational Segment (USOS) hams on board ISS. So any schools contacts during this period will be conducted by the ARISS Russia team.

[ANS thanks ARISS, Charlie AJ9N and David AA4KN for the above information]

Official ARISS Website
http://www.ariss.org

ARISS on FACEBOOK
http://tinyurl.com/ANS313-ARISS-Facebook

ARISS on Twitter
https://twitter.com/ARISS_status
or @ariss_status

ISS Fan Club
http://www.issfanclub.com

Amateur radio Stations Heard via ISS Digipeater
http://www.ariss.net/

Did You Know...
Current flight rules require all the ham radios to be off during an EVA. Technically, the VHF radios needs to be off for Russian EVAs and the UHF radio needs to be off for US EVAs.

For dockings and undockings, again the ISS operates under a flight rule that has the VHF/UHF radios off for Progress, Soyuz and ATV vehicle activity. Note that Cygnus, Dragon, HTV and formerly the Shuttle did not require the radios to be off.

For Ham TV, already mentioned is that it will be off for any EVA. It needs to be off for ATV (the last one planned is there now) docking and undocking. It also has to be off when the Robotics arm is in close proximity.

Satellite Shorts From All Over

+ AMSAT North America Facebook page now boasts 920 members and growing. Join the fun!
  https://www.facebook.com/groups/7828379515/

+ Paul N8HM reninds us that AO-73 now has more convenient evening pass times as we've fallen back to Standard Time here in the United States.

+ Share This information With An Edcuator Near You!

  The following NASA information is of interest to Teachers; Educational, Museum and Science Centers Administrators; and anyone interested in supporting or using space as an educational tool. Please forward these on as you judge appropriate.

  NASA Education listserv sign up:
  http://www.nasa.gov/education/express

  NASA Twitter:
  http://twitter.com/nasa

  NASA Education Twitter:
  https://twitter.com/nasaedu

  NASA Blogs:
  http://blogs.nasa.gov/cm/newui/blog/blogs.jsp

  NASA Education EXPRESS Blog:
  http://blogs.nasa.gov/cm/blog/educationexpress

+ Interesting ISS Information

  Space Station Timelines
  http://www.nasa.gov/mission_pages/station/timelines/#.VF0IXPnF90o

  Console Displays
  http://spacestationlive.nasa.gov/displays/index.html

  ISS Fligth Schedule
  http://spider.seds.org/shuttle/iss-sche.html

  Q&As With Reid Wiseman KF5LKT
  http://tinyurl.com/ANS313-Wiseman-Q-A

  Reid talks about Amateur Radio on the ISS in this Segment
  http://tinyurl.com/ANS313-Wiseman-HamRadio

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive addi-tional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
EMike McCardel, KC8YLD
kc8yld at amsat dot org